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GP 1741

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

#13

AS  
10/4/01

IN THE APPLICATION OF: )

GEORGE BENDA )

SERIAL NO.: 09/405,781 )

FILED: Sept. 27, 1999 )

FOR: APPARATUS AND )  
FOR PURIFYING AIR )

GROUP ART UNIT: 1741

EXAMINER: T. Tran

APPLICANT'S REPLY BRIEF

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Washington D.C. 20231

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The Honorable Commission of Patents and Trademarks  
Washington D.C. 20231

Sir:

This is an applicant's reply to the examiner's response for appeal from a final rejection under 35 U.S.C. §102(e) and 35 U.S.C. §103 of claims 1-15 of the above identified application.

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I. RELATED APPEALS AND INTERFERENCES

5 No appeal in this application or any related application was previously before the Board or any appellate court. No related case is pending before the Board or in the Federal Circuit or any other court. There is, and have been, no interferences in this case.

10 II. REPLY

THE EXAMINER IS MIS-USING THE DOCTRINE OF INHERENCY

A. THE INHERENT FUNCTIONAL LIMITATION MUST ACTUALLY BE PRESENT IN THE PRIOR ART.

15 The examiner states in her response that drawing air into the reactor by convection and causing the air to rise past the photocatalyst by natural convection is inherent in the cited references Goswami (5,835,840) and Yamanaka et al. (5,919,422)

and therefore the claimed invention is either anticipated by or unpatentable over one or both of these references under 35 U.S.C. §102(e) or 35 U.S.C. §103(a).

5 Inherency can arise where structural limitations of a claim are found in the prior art, and the prior art did not disclose the functional limitations. In re Schreiber, 128 F.3d 1473, 44 U.S.P.Q.2d 1429 (Fed. Cir. 1997). "Whether a claim limitation is inherent in a prior art reference is a question of fact." Schreiber, 128 F.3d at 1477, 44 U.S.P.Q.2d at 1431.

10 The case law clearly states that the functional limitation which is inherent in the prior art reference must indeed actually be there, and that whether it is there or not is a question of fact that can be proved or disproved with evidence.

15 B. NATURAL CONVECTION IS NOT A LIMITATION IN THE INVENTIONS OF GOSWAMI OR YAMANAKA.

20 Goswami teaches a reactor across a duct or housing with a coated surface along the airstream path on which a semiconductor catalyst such as TiO<sub>2</sub> has been coated. Ultraviolet lamps are installed in the reactor such that the catalyst is exposed to UV rays as the air passes over it [Goswami abstract]. The Goswami invention DOES NOT INCLUDE A HEATER. Goswami teaches a FILTER that is placed in an air duct in a building HVAC system to purify

air. It is well known that ALL buildings have heaters and coolers in their HVAC systems. The heater can be in a basement, on top of the building, or anywhere in the building. The Goswami invention could be on the 25th floor or any floor. It could be above or below or horizontal from the building heater/coolers. There is no way natural convection could have any effect of moving air in a building HVAC system. Goswami works by duct air moving through it. Duct air is moved in a building by fans, not natural convection.

Yamanaka et al. teach numerous embodiments of photocatalyzers using  $TiO_2$  or other catalysts. None of Yamanaka's embodiments include a heater. Only Fig. 10 of Yamanaka [item 119] is named as a heater. This is described in the reference as a standard hot water car heater [item 103, Fig. 10, Yamanaka, referenced Col. 21, line 29]. Because it is an automobile, as in Goswami's building, there must be a heater/AC somewhere. However, again, air is moved in a car by fans, not natural convection. In fact, Yamanaka clearly shows a blower to move the air [item 106, Fig. 10, referenced Col. 21, line 13]. The airflow in Yamanaka is clearly shown in Fig. 10 passing through the catalyst reactor [item 105] driven by the blower [item 106] past a damper [item 117]. If the damper is closed, the flow stops.

C. NATURAL CONVECTION CANNOT BE A LIMITATION IN EITHER GOSWAMI OR  
YAMANAKA BECAUSE THEY WORK IN SUMMER AS WELL AS WINTER

Both the Goswami building HVAC system and embodiment eight  
of Yamanaka work in winter and summer. This is proved by discus-  
5 sions in both texts of air conditioning as well as heat. In the  
summer, the heaters of Goswami and Yamanaka are TURNED OFF. Yet,  
these inventions function exactly the same as when the heaters  
are turned on in winter. This is proof that the heaters in both  
references play no role whatsoever in the respective inventions.  
10 Thus, neither Goswami nor Yamanaka contain the claimed functional  
limitation.

III. PERFECTION ON APPEAL

The applicant submits this reply in triplicate.

Respectfully submitted

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